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**Before the Joint House Committee on Commerce and Trade/Senate Committee on Commerce on**  
**Maritime Issues**  
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Since 1880, the Lake Carriers' Association (LCA) has been the unified voice of the U.S.-flag Great Lakes fleet. Today, LCA represents 13 American companies that operate 49 U.S.-flag vessels on the Great Lakes and carry the raw materials that drive the nation's economy: iron ore for steel production, limestone and cement for construction and steelmaking, and coal for power generation. Other cargos include sand, grain and assorted dry-bulk cargos. Collectively, these vessels can transport more than 100 million tons of cargo per year.

Lake Carriers' members are homeported or have operations throughout Michigan; in Escanaba, Muskegon, Ludington, the Soo, and Detour Township. Much of the iron ore they carry, and most of the limestone they haul comes from Michigan mines and quarries. All of the cement they transport is loaded in either Alpena or Charlevoix. In fact, Michigan has more ports than the other seven Great Lakes states combined.

Great Lakes commercial maritime drives nearly 27,000 Michigan jobs with a combined payroll of \$1.8 billion, \$600 million in local Michigan purchases, while paying \$182 million in state and local taxes. In 2015, Michigan's Great Lakes ports shipped and received 58.7 million tons of cargo, the equivalent of 5.9 tons for each Michigan resident. According to the United States Army Corps of Engineers (Corps), Great Lakes commercial maritime transportation saves \$3.6 billion dollars annually over the next cheapest mode.

We thank you for the opportunity to provide our written and oral testimony before this joint Michigan House and Senate committees.

We wish to discuss a few of our maritime issues that are critical to maintaining Michigan's economic engine. These include the building of a new lock at the rapids of the St. Marys River to add secure redundancy and modernize the complex; construction of a new heavy icebreaker to keep vital commercial maritime traffic moving during the ice season; the uniform regulation of ballast water throughout the Great Lakes; and maintenance dredging of commercial ports and federal navigation channels. All of these are crucial to maintaining the unencumbered movement goods across the Great Lakes in the most economically efficient and environmentally sound manner available for these commodities.

A Great Lakes "laker" averages 601 miles on one gallon of fuel per ton of cargo carried. In contrast, a truck averages 59 miles and a freight train 202 miles on one gallon of fuel per ton of cargo according to a study conducted by the United State Department of Transportation's Maritime Administration. In one delivery, the largest U.S.-flag lakers can transport and self-unload over 75,000 tons of cargo. It would take 3,000 trucks over Michigan roads or more than seven 100-car unit trains to deliver the same

amount of cargo to Michigan and other Great Lakes steel mills. The small environmental footprint of lakers is therefore not surprising. Trucks emit 10 times the amount of greenhouse gases than do lakers; rail nearly three times as much according to the Department of Energy.

#### **Building Redundancy and Security at the Navigation Locks in Sault Ste. Marie:**

First, we want to discuss an infrastructure issue of critical importance to Michigan, the Great Lakes region and the nation: the Soo Locks. In his State-of-the-State address in 2016, Governor Snyder named the Soo Locks as a key infrastructure priority saying, "The locks are absolutely crucial to supplying the iron ore that makes the steel for Michigan's auto industry and many of our appliances. The Poe Lock is absolutely critical to our future. The issue is that there is one of them. In an analysis that was done, what would happen if that one lock went down? It would devastate the Michigan economy."

The Michigan legislature steadfastly supported this view with the late Representative John Kivela's House Resolution 154, Senators Wayne Schmidt's and Tom Casperson's Resolution 105, and Representative Lee Chatfield's House Concurrent Resolution No. 2.

All of the iron ore that feeds Michigan and other Great Lakes blast furnaces must pass through the Soo Locks originating from mines in Minnesota and Michigan's Upper Peninsula. The iron ore mine that shipped out of Escanaba on Lake Michigan, the only ore loading dock below the Soo Locks, has closed permanently. The most efficient vessels, the 1,000 foot long vessels known as "footers" are too large to pass through the MacArthur Lock, so Great Lakes steelmakers are almost entirely dependent on the Poe Lock with 96 percent of all iron ore cargo transiting the Poe in 2016. If it was out of service, the iron ore trade would slow to a trickle and put steelmaking far behind in meeting their automotive requirements.

In 1986, a new lock at the Soo was authorized to add redundancy and security to the Great Lakes navigation system. In 2007, Congress reiterated the importance of this new lock at the Soo by authorizing its construction at full federal expense. However, a flawed U.S. Army Corps of Engineers (Corps) 2004 assessment of the project's benefit/cost ratio (BCR) produced a ratio of 0.73. Since the ratio was below 1.0, the Administration could not include the project in its budget. The Corps greatly overestimated railroad's ability to absorb Poe Lock cargos without additional costs to move some 80 million tons of cargo that would normally transit the locks annually. They did not include the cost of adding new rolling stock, locomotives, track upgrades, other public and private infrastructure, and time to make all the changes. The primary reason the Corps' analysis produced a BCR of 0.73 is the Corps assumed the railroads could move the cargo stranded by a failure of the Poe Lock and at no extra cost to the customer. That is not the case. First, the railroads do not have the equipment or infrastructure to handle the cargo that would be stranded and could not acquire the equipment quickly. Second, even if they could build the infrastructure and secure the additional rolling stock, the cost would be prohibitive. Third, many steel mills and utilities served by Poe-class vessels lack the ability to receive cargo by rail. It is also incorrect to assume the railroads could move Poe Lock cargos at no additional cost. The Corps itself notes that Great Lakes shipping annually saves its customers \$3.6 billion in freight charges compared to the next least costly mode of transportation. Even if trains could meet Ohio steelmakers' iron ore needs, there would be a significant increase in the cost of delivery.

A 2015 report from the United States Department of Homeland Security (DHS) says a Poe Lock failure would cause national recession. DHS did the study on a 6-month closure of the Poe Lock. Titled "The Perils of Efficiency: An Analysis of an Unexpected Closure of the Poe Lock and Its Impact." The analysis

found a failure of the Poe Lock would quickly cripple the economy. Approximately 75 percent of U.S. integrated steel production would cease within 2-6 weeks of the lock failing. Roughly 80 percent of iron ore mining and nearly 100 percent of North American production of automobiles, appliances, heavy equipment and railcars would shut down. Almost 11 million people in the U.S. and millions more in Canada and Mexico would be unemployed. The closure of the Poe could plunge the economy into a recession more severe than the "Great Recession" of 2008-2009.

The DHS study predicts a 6-month closure of the Poe Lock would push Michigan's unemployment rate to 22.6 percent, the highest since the Great Depression. The neighboring states of Ohio and Indiana would see their unemployment rates skyrocket to 17.2 and 22.0 percent, respectively.

The Corps is preparing an Economic Reevaluation Report to reassess the BCR of new lock construction, which, if it properly reflects the facts, will produce a BCR more than sufficient to include the lock in the Administration's budget.

In January of this year, a study commissioned by the United States Treasury Department listed modernization of the locks at Sault Ste. Marie, Michigan, as one of the 40 American transportation and water "megaprojects" that could bring as much as \$1.3 trillion in national economic benefits. The system resiliency that a second Poe-sized lock will provide has an estimated net economic benefit of as much as \$1.7 billion, according to the study.

#### **Constructing a New Heavy Icebreaker to Keep Great Lakes Cargoes Moving:**

Moving cargo during the ice season is an absolute necessity on the Great Lakes. The industries we serve require vast amounts of raw materials. It takes 1.5 tons of iron ore and 400 pounds of fluxstone (limestone) to make a ton of steel in a blast furnace. Great Lakes steel mills can consume as much as a ton of iron ore every three seconds. Also, to power a city such as Detroit, a power generating plant will need nearly 3,000 tons of coal per hour.

In 2016, our members moved 83.3 million tons of cargo on the Great Lakes. Of that total, 11.6 million tons, or 14 percent, moved during the ice season.

#### **U.S.-Flag Cargo Movement during the 2016 Ice Season (net tons)**

<b>Cargo</b>	<b>Dec. 16-31, 2015</b>	<b>January 2016</b>	<b>February 2016</b>	<b>March 2016</b>	<b>April 1-15, 2016</b>
Iron Ore	2,101,738	1,664,320	0	1,362,768	2,333,132
Limestone	895,449	180,204	0	68,275	351,093
Coal	956,112	189,977	0	133,155	484,851
Cement	114,103	157,796	52,389	182,913	99,124
Other Dry-Bulk	173,098	77,072	0	0	0
<b>Total</b>	<b>4,240,500</b>	<b>2,269,369</b>	<b>52,389</b>	<b>1,747,111</b>	<b>3,268,200</b>

Delivering cargo during the ice season, mid-December to mid-April, is critical to maintaining industrial activity when winter closes the locks. Great Lakes shipping needs to continue during the ice season to meet customers' demands. Any shortening of the season would lead to production shortfalls and lay-offs.

The United States Coast Guard (Coast Guard) is charged with icebreaking to meet the reasonable needs of commerce by an Executive Order issued in 1936. Ten days after the attack on Pearl Harbor, Congress appropriated \$8,000,000 for the construction of a heavy icebreaker capable of breaking the thick ice on the lakes to augment the Coast Guard's Great Lakes forces to ensure the free flow of iron ore and other cargos so vital to the war effort. This new vessel, the MACKINAW, was commissioned in 1944 and served until its retirement in 2006.

Today, the Coast Guard has nine vessels tasked with icebreaking on the Great Lakes. The largest and newest is the heavy icebreaker MACKINAW (named in honor of the original MACKINAW) launched in 2005 and commissioned in 2006. The new MACKINAW is designed to break ice up to 32 inches thick. The Coast Guard's six 140-foot-long icebreaking tugs were built in the late 1970s and early 1980s have proven very capable in assisting vessels in moderate ice of nearly two feet. They are currently in the midst of a "service life extension program" that will extend the function life by 15 years. The 225-foot-long buoy tenders HOLLYHOCK and ALDER built in 2003 and 2004, respectively, break ice also but were not designed to break ice commonly found in Great Lakes choke points, maxing out at ice no greater than 14 inches thick.

The crews on the vessels are the finest the Coast Guard has to offer, but the fact is winter can overwhelm their vessels. The winters of 2013/2014 and 2014/2015 are a case in point. The cargos that were delayed or canceled by heavy ice cost the economy 5,800 jobs and more than \$1 billion in lost business revenue.

The winter of 2013/2014 arrived early and in full force. The Coast Guard started breaking ice on December 6, the earliest date on record. The ice and weather challenged everyone's capabilities and iron ore shipments in December decreased by 21 percent compared to the year before. Conditions worsened in January 2014 and iron ore cargos fell nearly 40 percent.

The ice continued to thicken during February and March and as the March 25 opening of the locks at Sault Ste. Marie, Michigan, approached, three U.S.-flag lakers loaded iron ore in Duluth and Two Harbors, Minnesota, for delivery to a steel mill in Gary, Indiana. Under normal conditions the voyage should have taken about 62 hours. Instead, even though the vessels were escorted by the MACKINAW across Lake Superior and then other Coast Guard icebreakers below the locks, the trip took 11 days. The steel mill in Gary had to curtail production as its iron ore stockpiles were insufficient to maintain full production.

Fleet-wide, U.S.-flag lakers suffered \$6 million in ice damage that March and April.

The winter of 2014/2015 was just as challenging. In fact, in February, one vessel was beset in ice on Lake Erie within sight of land for five days, even though it had an ice-strengthened hull and an engine capable of generating 7,700 horsepower. Both the U.S. and Canadian Coast Guards worked to free the vessel but it never made it to port to load and its last cargo of season had to be cancelled. Cargo movement in U.S.-flag lakers in March 2015 fell to its lowest levels since the recession-impacted 2009. Shipments totaled only 825,000 tons, a decrease of more than 60 percent compared to the month's 5-year average. A number of lakers delayed their fit-out because of the heavy ice. Only 26 U.S.-flag lakers were in service on April 1. In some years, nearly 50 vessels are underway by that date.

Congress recognized the Coast Guard's icebreaking forces on the Lakes were insufficient and authorized construction of another Great Lakes heavy icebreaker in the Coast Guard Authorization Act of 2015. The vessel is projected to cost approximately \$240 million. The Congress has authorized and appropriated funds to begin design of the icebreaker. It is expected the vessel's design will be based on the MACKINAW, with some refinements gained by 11 years' experience with that vessel.

**Uniform regulation of ballast water in the Great Lakes:**

Currently, the Coast Guard, United States Environmental Protection Agency (U.S. EPA), and several Great Lakes states, including Michigan, regulate the discharge of commercial vessel ballast water. This regulatory patchwork regime imposes different, and often conflicting, ballast water regulations on commercial vessels engaged in interstate and international commerce. All of these regulations, however, allow lakers that operate exclusively within the Great Lakes and St. Lawrence River to manage their ballast water to control the movement of non-native species rather than install and operate ballast water treatment systems that have not been proven to work in these unique vessels.

Unlike ocean-going vessels, lakers do not bring non-native species into the Great Lakes, so their ballast water is regulated differently. Also, lakers' short voyages, high ballast water discharge rates, and uncoated ballast tanks are incompatible with current ballast water management systems (BWMS). Ocean-going vessels are required to begin the installation and operation of Coast Guard-approved BWMSs and to maintain the practice of saltwater exchange of their ballast water to flush and kill any freshwater non-native species that may be hitchhiking aboard their vessel. The Coast Guard and U.S. and Canadian operators of the St. Lawrence Seaway have inspected every vessel and all their ballast tanks arriving from outside the Exclusive Economic Zones of each country since 2006 for compliance with this program, and since then there have been no documented arrivals of non-natives in the Great Lakes attributable to ballast water as a vector according to U.S. EPA, Coast Guard, National Oceanic and Atmospheric Administration, United States Fish and Wildlife Service, and International Joint Commission.

Congress is considering legislation (the Commercial Vessel Incidental Discharge Act [CVIDA]) to consolidate regulation of commercial vessel ballast water and other incidental discharges under the authority of the Coast Guard. This legislation, in its current form, gives the states the authority to enforce federal standards and petition the federal government for tougher ones, U.S. EPA the mandate to study and verify the science that a new standard is achievable, and the Coast Guard the requirement to approve the BWMSs that meet the new standards.

Lake Carriers' engaged wastewater engineers, ballast water experts, and naval architects to explore the cost of compliance for the U.S.-flag laker fleet to meet the discharge standards applicable to ocean-going vessels. The studies found that the economic impact to the fleet and its customers would be \$639 million for installation cost plus \$11 million annually to operate them. It also would eliminate the equivalent of the annual carrying capacity of a thousand footer, over 3 million tons. To put the infrastructure in place on the U.S. side of the lakes to handle shore-based options for treating ballast water could cost \$11 billion.

Again, let us reiterate that lakers have never introduced any non-native species into the Great Lakes. And, since 2006 when the door to introduction was closed in the Seaway, no non-natives have moved among any of the ports or lakes by ballast water. To explore what role lakers may have in interlake

transfer, Lake Carriers' has engaged the University of Wisconsin-Superior and the Great Waters Research Collaborative to begin the first of its kind risk-release study using our fleet, the ports we frequent, and the known species in these locations as indicators of movement and establishment.

LCA, with the support of the Great Lakes iron ore mining and steel manufacturing industries, proposed on July 18, 2017 that CVIDA include a process to review whether the laker exemption should be ended after certain criteria are met. Lake Carriers' proposal continues the alternative compliance program for lakers until terminated based on Coast Guard determinations that:

- (1) a BWMS has been approved by Coast Guard for installation in lakers;
- (2) it is operationally practicable for lakers to install and operate the BWMS;
- (3) the benefits of requiring lakers to comply with the BWDS exceeds the costs of such compliance, including the economic impacts on lakers, their customers and their workers.

LCA's proposal also provides a deadline for these determinations and provides a compliance deadline for lakers if their exemption is terminated. This uniform approach is critical to ensuring the economic and ecologic benefits of interstate commercial maritime trade in the Great Lakes is to remain viable.

**Maintaining commercial harbors and federal navigation channels is critical:**

A steady increase in funding for dredging the Great Lakes Navigation System has reduced the backlog from a peak of 18 million cubic yards in 2006 to 15 million cubic yards today. In Michigan's commercial harbors the Corps estimates that there is a 2.9 million cubic yard backlog. While this reduction is welcome news, the reality is there will always be a need for dredging, even once the backlog is cleared. The natural rate of siltation build-up in the Lakes is more than 3 million cubic yards each year. Additionally, that backlog does not bring the system back to the fully authorized dimensions but only to the "functional" dimensions necessary to meet the minimal requirements necessary to transit the system. But this is literally a game of inches. Depending on their size, U.S.-flag vessels lose anywhere from 50 to 270 tons of cargo for each inch draft is reduced by lack of dredging and low water levels.

With these 15 million cubic yards of excess sediment reducing vessel efficiencies, the Water Resources Development Act of 2016 (WRDA 2016), thanks to Michigan Congressman Bill Huizenga, makes permanent the temporary allocation to the Great Lakes of 10 percent of the increased funding for dredging mandated in 2014. WRDA 2016 also ensures that annual appropriations from the Harbor Maintenance Trust Fund (HMTF) will continue to incrementally increase until they reach 100 percent of annual receipts by 2025. The Corps is also directed to:

- (1) publish how it will operate and maintain the Great Lakes Navigation System as a single, comprehensive system of interdependent projects;
- (2) calculate the transportation rate savings of maintaining each navigation channel at its constructed dimensions; and
- (3) report to the Congress on the estimated cost to repair and maintain each federal breakwater and jetty.

This is a far cry from just a few years ago when the HMTF was spending less than half its tax receipts on their intended purpose of maintenance dredging and instead was amassing a \$9 billion surplus. The Great Lakes dredging backlog topped 18 million cubic yards and was projected to grow to 21 million in

just a few years. It took a lot of effort and commitment from Great Lakes Senators and Representatives to turn the tide, but the dredging crisis has been corralled and the way forward clearly marked.

**In summary:**

Commercial maritime shipping and the materials we transport are critical to Michigan and the nation. The raw materials the U.S.-flag fleet moves each year are integral to manufacturing, power generation, agriculture, and construction. As we noted, 27,000 Michigan jobs directly trace their existence to Great Lakes commercial shipping. But we are also leaders in minimizing negative environmental impact through our fuel efficiencies/small carbon footprint compared to other modes of transportation. And though we are not given enough credit, in 1993 our industry began to self-regulate itself on how ballast water was managed in our ships with the intent of minimizing the potential spread of non-native species and viruses. We feel these ballast management practices bore fruit when the front door to the Great Lakes was shut with mandatory ballast water exchange by all ocean-going vessels in 2006.

Maintenance of Great Lakes infrastructure for commercial maritime, which also benefits other water-dependent industries such as commercial and recreational fishing, recreational boating, and other on-water and shore-side Great Lakes pursuits, is an ongoing effort by both private industry and all levels of government. While dredging had been looked upon as a function that necessitated the creation of confined disposal facilities throughout the lakes, new innovations and uses have allowed these “spoils” to become beneficial materials in construction, brownfield restorations, as topsoil, and other uses. Breakwaters do not just protect commercial vessels, they also allow municipal and private marinas to flourish, public beaches to be protected, and waterfront development protected.

Lastly, we always talk about the Great Lakes and St. Lawrence Seaway as a single system. It is. But it is represented by two nations, eight states, two Canadian provinces, and many local governments. When policies are developed, such as regulation of ballast water, a consistent uniform approach across the Great Lakes basin is critical whether its consequences drive economic, ecologic, or social decision-making. It is rare for products and materials that rely on Great Lakes commercial navigation to remain in a single state, traversing only that state’s waters from the time they were mined, milled, manufactured, and purchased by the end user. In fact, shipping iron ore from Marquette to Detroit crosses the international border 17 times.

Michigan is a Great Lake state that understands it is a maritime state.

Again, we thank you for the opportunity to provide our written and oral testimony before this joint meeting of the House Committee on Commerce and Trade and the Senate Committee on Commerce on Maritime Issues.

